

been replaced by the first letters of the alphabet, which are single letters, thus keeping all 16 symbols single digit.

56. HEXADECIMAL SYSTEM COUNTS - The AREA CODE, PREFIX, and LINE NUMBER. We have $4096 \times 65536 = 268,435,456$ lines for each area code as compared to JUST 10,000,000 in a decimal only system. The whole system is $4096 \times 268,435,456 = 1.0995116E12$ or 1,099,511,600,000 or about 1100 billion numbers, and California alone has 10 billion, today.

57. INDUSTRY CLASS OF SERVICE - This is the part of this Proposal that is the vehicle for implementing HEXADECIMAL Phone numbers.

58. LINE CARD - This is the computer card that your phone line connects to in the central office computer.

59. NANP - North American Number Plain - This is a national program that defines the area code, prefix, and line number to be 3 digits, 3 digits, and 4 digits, respectively.

60. NUMBER SETS - Just a fancy name for all the symbols we all use every day. The binary number set is 0, 1.

61. PHONE CLASSES OF SERVICE - The traditional classifications are Residence and Business. This Proposal creates the INDUSTRY class of service.

62. POTS - Plain Old Telephone Service. The Industry class of service is indeed, the personification of POTS. You get a line and a dial tone, that is all. Even the connector is extra. Known as HEXpots.

63. PRIVATE HEXADECIMAL PHONE NUMBERS - Examples of machine dial-able (not on existing phone pads - Hex D, E, F, and 0 = true zero) desirable for use by all the services listed below in

REFERENCE LIST OF GOOD CONSERVATION CATEGORIES, as in 21F/4D2-FE21.

63. PUBLIC CLASSIFIED - The public may be classified as General, Enlightened, and Technical.

64. PUBLIC DECIMAL NUMBERS - Examples of human dial-able (included on existing PHONE pads - Decimal 1, 2, 3, 4, 5, 6, 7, 8, 9, and Hex 0=A, *=B and #=C) desirable for use by residence and business services as in - 213/456-7890.

65. PUBLIC HEXADECIMAL PHONE NUMBERS - Examples of human dial-able (included on existing PHONE pads - Hex 0=A, *=B and #=C) desirable for use by Fax and Pager and Voice Mail services as in - 213/456-7890 vs. 21#/4#6-*890.

66. SEPARATION OF SERVICES - The idea of placing the phone numbers of certain types of services into specified categories, all to the benefit of the general public. As in Technology-Specific or Service-Specific Area Codes and Technology-Specific or Service-Specific Prefix Codes

67. SERVICE SPECIFIC - The idea of placing the phone numbers of certain types of services into specified categories. See also, SEPARATION OF SERVICES.

68. SURCHARGE - An arbitrary amount, temporarily added on bills for voice mail, pagers, and faxes to encourage them to move to PUBLIC HEXADECIMAL PHONE NUMBERS.

69. SWITCH ROOM - See Central Office

70. TECHNICAL PUBLIC - We who are technically trained, install and service all kinds of systems attached in some way to the phone system. Many of us have been using HEXADECIMALS in our daily lives for many years.

71. TECHNOLOGY SPECIFIC - See SERVICE SPECIFIC

72. TONE FACTS - Tone duration is about 40 milliseconds on and then about the same time off between digits. So you can dial more than a 20-digit number in less than a second.

73. TOUCH-TONE - This is also known as DTMF, Dual Tone, and Multiple Frequency system. It is defined for HEXADECIMAL number system and is what we produce when we use our phone's push buttons. Invented at Bell Labs, it was introduced in 1962 as the solution to the future needs of the phone system. It does not use pulses to dial a number; rather it uses tones to designate the digits of the number to be processed. Everyone in America was forced to pay for this system!

74. REFERENCE LIST OF GOOD CONSERVATION CATEGORIES - The list:

- 75. 800/888 Toll Free Translator Numbers
- 76. Alarms, Fire, Burglary, Holdup Systems
- 77. ATM Systems
- 78. Automatic Paging Systems
- 79. Bulletin Board Computer Systems
- 80. Call Box Signaling Systems
- 81. Computer Access Phone Numbers as for AOL etc.
- 82. Computer Access Second Line at Home
- 83. Corporate Systems
- 84. Credit Card Verification and Approvals
- 85. Elevator Phones
- 86. Emergency 911 System Phones
- 87. Freeway Emergency Phones
- 88. Internal Voice Mail
- 89. Military Communications
- 90. Pager Phone Services
- 91. Pay Phone Service
- 92. Phone Company Business Offices and Repair Service
- 93. Point of Sale Transactions
- 94. Public Voice Mail
- 95. Rotary Lines Second and Above (2-??) (UAL: 1 decimal, 999 HEXADECIMAL)
- 96. All of the above should be HEXADECIMAL NUMBER based.

=====

=====

97. ----- Part 2 Discussion and Applications -----

=====

=====

98. --- DISCUSSION ---

=====

=====

99. PERSONAL DISCLAIMER - The author has been granted the right to intervene in this issue, but is not a professional telephone tariff junkie. He knows enough to present these issues in reasonable form, but probably not using the jargon with the completeness or exactness many of you would commonly use. Common understandings in words and concepts will prevail in place of alphabet soup. Anyway, experience reveals that the several lurkers to this list are likely to not understand insider jargon, so this approach will allow everyone to participate in the discussion, even if only from the sidelines.

100. COMMENTS OR PROPOSAL DECLARED INAPPROPRIATE IN PART - Should any part of this proposal or the comments be declared inappropriate, for whatever reason and not to be limited to: content, timing, subject, scope, applicability and so on, then the remainder of this Proposal and Comments shall remain as a properly submitted document to be processed, examined, responded to, heard, acted upon, and finally used in rule making by all parties of the government.

101. The author speaks only for himself, not the alarm industry, in whole or in part, or any other industry, for that matter.

102. EXAMPLE STANDARDS - Several PHONE NUMBERS and other exact examples will be used in this writing. DO NOT DIAL THESE NUMBERS! They are shown for illustrative purposes only, no disrespect intended. If your number or a number of someone you know is used here, it is purely coincidental.

103. PERSONAL GOAL - The author started some nearly 15 years ago, to get the phone companies to use HEXADECIMAL PHONE NUMBERS. This continues to be the reason for his being involved with you all. As a PRIVATE citizen, retired, with no stock or financial interest in any system or company, but as a professional electronics engineer, upset that these extra digits are still not in use in the PHONE system. It is such an obvious no brainer to use the rest of the Touch Tone system we all paid for 20 years ago, rather than more new DECIMAL area codes, which we are about out of anyway.

104. Readers are encouraged to learn more about it by viewing the author's web site at:
<<http://www.webcom.com/electro7/hex/hex.html>> for details.

105. PROPOSAL INCLUSIVE - This Proposal is about the conservation of PHONE NUMBER resources. Somehow our federal agency, the Federal Communications Commission (FCC), lost its way when it came to the nations PHONE NUMBER system. This agency vehemently guards our electromagnetic spectrum allocations. Never would the FCC allow several grossly destructive uses of the spectrum, yet such assignments as "00 INFO," "*70," and "10-10-123" clearly indicate that someone has been asleep at the helm. Notwithstanding the desire for phone features to be under public user control, which is recognized, it is the implementation in these examples that consumes 8 to 800 million numbers in the process that is an egregious act of folly. We must insist on the conservation of this numeric resource with the same tenacity, as is the case for the spectrum!

106. INDUSTRY CLASS OF SERVICE TO BE CREATED - Implementation of a program that involves the creation of the INDUSTRY class of service is essential to the success of this conservation method. Fortunately, a byproduct of adherence is that there will be no need for new DECIMAL area codes and full support for the North

American Number Plain (NANP), which is a mandatory requirement for any program, will be fully maintained.

106. We have long had the two service classes of Business and Residence. We will create and implement the proper environment for, but not limit it to, the assignment and use of HEXADECIMAL PHONE NUMBERS by creating a new class of service, to be known as INDUSTRY.

107. All telephone companies doing business in this state offer two classes of service: Residential and Business. It has been common practice to deny services requested in opposite locations. If you have a business PHONE, the PHONE Company will not install a residence PHONE at that location. If you have a residence PHONE, the PHONE Company will not install a business PHONE in that location. This Proposal, if implemented, will change that policy.

108.

Business

Industry

Residence

Public Decimal

Public Decimal

No change from existing
numbers we use today.

No change from existing
numbers we use today.

uses
HEX
A
DECIMALS

Public Hexadecimals human dialable		Private Hexadecimals machine dialable
<div>FULLY COMPLIANT WITH NANP</div> <div>All are unused numbers, located everywhere, and they are FREE!</div>		
<p>USES THESE EXTRA SYMBOLS</p> <p>* AND #</p> <p>in numbers that look like:</p> <p>619/3*4-1234, 619/75#-9123, 619/675-*123, 619/837-23#5</p> <p>Use Public Hexadecimals for the following (everybody can dial)</p> <p>Pagers Faxes Voice Mail</p> <p>other uses</p>	<p>USES THESE EXTRA SYMBOLS</p> <p>D, E, F, Ø</p> <p>in numbers that look like:</p> <p>619/7D9-0123, 619/9Ø5-F123, 619/60E-FF34, 61F/742-3125</p> <p>Use Private Hexadecimals for the following (nobody can dial)</p> <p>Alarms Freeway Phones Elevator Phones Point of Sale Computer Modems</p> <p>other uses</p>	<p>NOTES</p>

Migration of these various users to Hexadecimal Phone Numbers will free up more than enough Decimal Phone Numbers for public uses for the next 100 plus years. No new Decimal Area Codes are needed with this plain. Line numbers go from 10,000 to 65,536 everywhere!

All phone company systems are already hexadecimal (Touch Tone, DTMF) so this plain is FREE, because we already paid for it 20 years ago!

Learn more at <<http://www.webcom.com/electro7/hex/hex.html>>

108. ELECTED OFFICIALS AND THE LEGISLATURE - This is an issue that concerns everyone in every state: large or small businesses, and every resident. There are several state officials concerned about this issue: California Assemblyman Wally Knox (D - Los Angeles) has introduced a bill, AB-818, to attempt to address some of the concerns of the PUBLIC in California.

109. His bill in the assembly, AB818 AREA CODES, is wrongly implemented, although he has good intentions. It seeks to assign various large number users, such as pagers, faxes, etc. to NEW DECIMAL AREA CODES, so as to relieve the existing area codes of the large number users, by moving them to the new code. This is not a good way to deal with the large users of numbers, because this still requires the existence and assignment of DECIMAL area codes and it still consumes more of NANP's dwindling number of remaining DECIMAL area codes. It must be amended.

110. There are other state officials, in New York for example, with concerns about these very issues. Locally, U. S. Congressional Representative Brian Bilbray, and U. S. Senators Barbara Boxer and Dianne Feinstein, my representatives, have made numerous requests to the FCC on my behalf, but in each case we get the same non responsive 3 page reply with a bunch of nonsense from the Common Carrier Bureau, always ending with the same comment: HEXADECIMAL NUMBERS are interesting! No action has ever been taken or promised in all these years of effort by them and me.

111. FEDERAL OBSTACLES - The FCC looms menacingly over all these issues. Clearly they have not addressed our concerns and the public is mad about this failure. Some relief may be forthcoming. A bill in congress is SB 765, sponsored by Senator Collins of Maine and Senator Toricelli of New Jersey. This bill does not address several of our concerns and will need to be amended to include these proposed issues, but it is a start.

112. THE NORTH AMERICAN NUMBER PLAIN - This Proposal aids the NANP by NOT USING ANY EXISTING OR FUTURE DECIMAL AREA CODES. It does not require any special moving of users to a new DECIMAL area code, just move to the HEXADECIMAL parts of the existing line numbers and prefixes and area codes that WE ALREADY HAVE! Under the HEXADECIMAL system, line numbers for all exchanges go from 10,000 to 65,536 for free and at no cost to the PHONE company or the PUBLIC and the NUMBERS are both dial-able on existing PHONE pads and by computer on all systems in use today. Only this Proposal offers a plain that will assist NANP by extending the projected exhaust to 100 plus years or more, a very long time, indeed. I should win the no bell prize for this solution, or at least lunch!

113. CURRENT STATE LEGISLATION - Legislation, if amended, MAY order the CPUC to create a new class of service to be known as, INDUSTRY. Furthermore, the CPUC may be ordered to require ALL PHONE COMPANIES doing business in this state, now or in the future, to offer the INDUSTRY class of PHONE service. The word INDUSTRY is preferred over Industrial since it suggests a foundry instead of all kinds of different Industries as in the Alarm INDUSTRY, the Pager INDUSTRY and so on.

114. Unlike Business or Residential service, INDUSTRY service can be located in a business along side Business service PHONES and can be located in a residence along side Residential service PHONES. INDUSTRY PHONE service is not to be restricted in any way; this policy is to be mandatory.

115. Unfortunately, the author does not remember the exact phrase, but it goes something like this: "A savings account is never needed until it is too late to begin." We must get this class of service in operation post haste, else we never will get users to avoid use of the other classes of service, in which we are continuing to use up DECIMAL PHONE NUMBERS. Alternatively, by

selecting INDUSTRY and HEXADECIMAL PHONE NUMBERS, which we have in existence today, several billion in California alone, all of which are presently going to waste!

115. All HEXADECIMAL PHONE NUMBERS - The INDUSTRY class of service, without regard to where the PHONE line is terminated, is to be designated as being a part of this Proposal. No difference in monthly fee or installation charges will exist between INDUSTRY PHONE located in a business or residence. The proposed fee for INDUSTRY class of service is to be \$52.00 per year. This is in line with the present offerings of Cox Telephone pricing for a second DECIMAL PHONE line charge at \$5.00 per month. It is full featured, but here, all you get is a line with a dial tone; no listings, no features, no instrument, and you pay for the connector if wanted, period!

116. THE INDUSTRY LINE - You get a line with a dial tone and that's all folks! No PHONE instrument, no 411 listing, no call forwarding, or other features at all, but all calls are to be timed to the second. \$52.00 per year with 100 calls per month included, for computer access to AOL, for alarms (from 0 or 1 to 4 calls or up to 60 one to two second calls per month), elevator phones (one call per month), pagers (in line), faxes (in line). Or a flat rate for credit card verification (thousands of calls) and point of sale applications (30 calls) with unlimited call allowances. All will be argued and decided upon later.

117. PHONE NUMBERS TAKE ON NEW STYLE - Phone numbers like, 619/231-F43C and 6F9/231-1234 and 80B/222-4567, 619/231-#345 or 619/231-*678; NO these are not VANITY LETTERS! Just using a HEXADECIMAL in the line number produces 65,536 NEW PHONE NUMBERS where there were only 10,000 NUMBERS before. If any digit of a number is HEXADECIMAL, then the whole number is HEXADECIMAL. When a person sees the # or * in a number, they know the number is to a fax or pager or voice mail and that the entire 10 digit number must always be dialed.

118. FREE TO USE - THIS IS AT NO COST TO THE PUBLIC OR THE PHONE COMPANIES and the NUMBERS can be located ANYWHERE you need them.

119. PHONE COMPANY INCENTIVE - The phone company will like the idea that the phone service fee is to be paid a year in advance and that the money may be used as the phone company sees fit. Invest it and earn the interest for the Phone Company.

120. In all cases, the fee or charge is to be 20% lower than the lowest fee or charge normally charged for either class of service through the year 2005. This is a part of the necessary PUBLIC incentive to request the use, originally, of HEXADECIMAL NUMBERS and or to encourage migration from existing DECIMAL PHONE NUMBERS to INDUSTRY class of services using HEXADECIMAL PHONE NUMBERS.

121. The 20% discount will be only a small incentive to prod existing established users of DECIMAL PHONE NUMBERS to migrate to the INDUSTRY class of service and the beneficial use of HEXADECIMAL PHONE NUMBERS. As they do migrate, their old DECIMAL NUMBERS will become available on a timely basis for PUBLIC DECIMAL assignment, as for business or residential uses. New users will find the lower rates appealing and will undoubtedly request the INDUSTRY class of service for all subsequent needs.

122. WARNING ABOUT OTHER POSSIBLE APPROACHES - Unlike the idea of requiring several user types (pagers, faxes, etc.) to be placed in special DECIMAL area codes, overlay or not, no long lasting benefit will be realized, because they still provide only 10,000 lines per exchange, and most distressing, this does nothing to support NANP; in fact, this approach continues to consume NUMBERS from the DECIMAL pool, only now, it is from a different end of the same pool!

123. The idea of adding a digit has been proposed. Some would add it to the area code, making it 4 digits long. Others would add

the extra digit to the prefix or the line number or even add a digit to the existing 7-digit format to distinguish between various overlay area codes, thus helping ease the burden of 11-digit dialing for each and every number. None comply with NANP! None will succeed for this very reason. Yet, HEXADECIMAL Phone Numbers DO COMPLY with NANP and require no changes in any automatic equipment. This is THE CHOICE by a far margin, nothing else is even close, and BEST OF ALL it is free!

123. INDUSTRY NUMBERS - In contrast, HEXADECIMAL PHONE NUMBERS provide 65,536 lines per exchange and fully supports NAPA by utilizing new, unused NUMBERS, never before available. No new computer needs to be purchased by the PHONE Company to provide service for HEXADECIMAL PHONE NUMBERS. Additionally, only the needed lines are to be built into any exchange and best of all, every exchange benefits from HEXADECIMAL, since every existing exchange can have only as many HEXADECIMAL NUMBERS added as are needed, up to the 65,536 limit per exchange, and they all are at no cost!

124. CONCENTRATED CONTRASTS - Contrasting further these differences, we see that all existing exchanges have today, at no cost, the ability to provide HEXADECIMAL PHONE NUMBERS. In concentrated, high use areas, this advantage allows for building only what is needed and only where it is needed, anywhere using any exchange in any area code. Such geographical diversity at no cost is a very, ultra ultra high cost benefit for both the PHONE companies and the PUBLIC.

125. HEX ON THE BLACK KEYS - Consider the PHONE system to be a piano. The white keys we use, the black keys are ignored. We soon learn there are not enough tones to produce the music we want using only the white keys. My argument is to use the black keys along with the white ones. Furthermore, the black keys are distributed and intermingled with the white keys throughout the

octaves of the keyboard. This makes it very easy to use both as we see fit. This is by far the better approach; it is better than adding more new pianos (DECIMAL area codes).

125. DECIMAL IS SUB SET OF HEXADECIMAL - The DECIMAL Numbering system is a sub set of the HEXADECIMAL Numbering system. If you have kids, ask them to explain set theory to you or visit my web site! Consider my PHONE NUMBER: 619/231-1313. Let us examine the sequence using only the last digit: 1310 , 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 131A=0, 131B, 131C, 131D, 131E, 131F, 1320 . See how the NUMBERS 131B to 131F (and 1310 , the 0 on your dial is actually hex A; 1310 refers to true zero) are NOT used in our present DECIMAL PLUS PHONE NUMBER scheme. We are using hex A=0, B=*, and C=#; so the word PLUS modifies strictly DECIMAL, 0 to 9 to make it into 1 to 9, and A, B, C) the PHONE NUMBER tone pad and the scheme presently in use today.

126. It is like the black keys on the piano, they are adjacent to where we stop using; just ready as can be to reach out and touch someone! When we do use them, the line count goes from 10,000 to 65,536. Wow! Now that is 6 times as many NUMBERS in an exchange. Remember that you only build as many lines as are needed. Some rural areas have only one octave of keys (lines) built in their switch, but as I tell you, just as in the 1313 example, HEXADECIMAL NUMBER lines are there, like the black keys in just one octave, ready to be used and they are FREE!

127. HEXADECIMAL PHONE NUMBER AVAILABILITY - They are available everywhere that there is a PHONE, and since this provides additional revenue for the PHONE company from the otherwise fully utilized plant equipment and it is at no cost, they gain in new value for what was previously fully utilized plant equipment by a factor in excess of 6 fold. Think about it! No new computer need be purchased, we simply use what is already there and working. No new area codes and no new prefixes. Do you think the PHONE Company will give an even better discount for this clear

advantage?

127. EXAMPLES OF NUMBERS - Consider the 619/231 exchange in San Diego. This exchange is located in high population downtown San Diego and is fully built and is fully assigned. An estimate is that only 15% of the 10,000 possible DECIMAL NUMBERS are not in use and these rotate between newly shut off service and new installs that will become available for assignment as attrition time expires. Creating the HEXADECIMAL PHONE NUMBERS 231-(0 0 0 0 to FFFF) is completed by installing the needed line cards in the computer bays and attaching lines from the cables serving the area. This expands the 231 exchange from 10,000 to 65,536 PHONE NUMBERS. Only the needed NUMBER of line cards will be installed. Suppose it was decided by the plant manager to "build" only the D0 0 0 to DFFF NUMBERS for now and when filled, add E0 0 0 to EFFF.

128. How nice, build only what is needed anywhere it is needed! Also in this switch room building is the 619/696 exchange. This exchange may be built to accommodate HEXADECIMAL PHONE NUMBERS as needed, just as the 231 exchange is expanded only as demand requires. And it is all free! All systems already work using HEXADECIMAL NUMBERS.

129. Then there is the 909/674 GTE exchange in the very small, but growing Lake Elsinore, CA. The population is so small that only 1000 to 1999 and 2000 to 2999 were ever built in this exchange. Line NUMBERS that begin with 0 or 3 to 9 do not exist, because of low population in the area of service. But, we still have HEXADECIMAL NUMBERS available in this exchange, since they are added to 10 0 0 to 1FFF and 20 0 0 to 2FFF. See how wonderful this system fits. No new anything to buy. Just plug in the line cards and connect up the lines. The system is fully HEXADECIMAL as it stands today.

130. WHO IS LISTENING TO WHAT - It is the job of phone company

equipment to complete the call as dialed and maintain the connection until the calling party hangs up. All kinds of systems, voice mail, paging, alarms, etc. use the * and # and all the rest of the decimal and HEXADECIMAL digits to control the system they are connected to. Nothing in this proposal affects any of those systems.

130. The use of these digits in a phone number, as in 452-*703 is proper and does not cause any problems because during the time dialing is being done, only the digits are being captured and extracted as a viable phone number that is to be completed. Having said that, there is a problem at some levels in every system.

131. AVOIDING PUBLIC CONTROL CODE EXCHANGES - Suppose you are making a call from 415 and you are in the local calling area of 415. You do not need to dial the area code, just the 7-digit number. But suppose you dial *70 for a call-duration-block of call waiting. Clearly this would pose a problem if there were a prefix of *70-9456 in existence in the 415 area code. Unless of course, we impose precise time completion requirements between the digit 0 and the digit 9 of the number or optional area code.

132. But, here again, this is a Public HEXADECIMAL number that could be assigned only to computer dialing equipment that does it's dialing in a fast string, with none of the delays we humans could make while completing the dialing. An Example of programmed delay is the delay in action when you dial the 0 for operator. Try it! If this possible delay were eliminated, the calls would be processed without a problem. But with so very many numbers available today, we can afford to not use *7x prefixes for the foreseeable future. This is a study item.

133. OPTIONAL AREA CODE - For travelers using their portable dialers or computer dialers, staying at a hotel in San Francisco, when they want to dial the office or their voice mail in Texas,

the computer has a problem. It does not know they flew to San Francisco, so it dials only the prefix not the area code and the prefix. This is the way most programs work and several work arounds having been made, but no one has done the obvious: make the dialing of the area code optional for calls from within the area code.

133. So I want to call 415/234-9012, since I am now in 415 at a hotel, I need only dial 234-9012, because the call is a local call from there, but when I was in Texas, I trained my Macintosh computer to dial 415/234-9012. Being the obedient servant that it is, it dials the area code before the number prefix. This gets me a reject recording for no good reason. So why not make the area code optional for calls from within the local calling area? I can program this feature myself and I am sure the Phone Company can too. See how simple life could be with just a little help from our bell system friends!

134. The concept of optional area code dialing for calls from within the area code lends itself to yet another advantage besides the traveler's communications convenience. Nationally recognized numbers, such as 911, 0 and 1 and 411 are among those that come to mind with under use or no use at all. For example, 1-619/014-3456 and 1-619/123-0987 are known as the zero hundred and one hundred number prefixes, but there is no reason not to consider 1-093/194-1234 and 1-115/003-9213 as well, and these are known as the one hundred and zero hundred area codes.

135. We can not and should not waste 25% of the available numbers just because some restrictions have to be placed on their secondary usage. No good reason exists for not using these and you all know the reasons for using them. The question is how to implement this concept and what should be the restrictions.

136. Why shouldn't 911-1234 be perfectly good for emergency phones? We can't dial into these phones anyway, but if we try, we

will get the primary use, 911 for an emergency call. This is as it has been planned and is in effect throughout the North American system. But there is one very big number of emergency phones, along the freeways, in elevators, on bridges, you name it, they are there and again I do not object in any way to this usage. What I do object to is the waste resulting from the habit of considering these numbers to have only a primary use and once that is done, there is no secondary use for the numbers. This is foolish business. Use these numbers in applications that do not affect the integrity of the primary usage, yet do allow for secondary usage.

136. In the case of 911, of the 65536 HEXADECIMAL or as it stands today, 10,000 numbers in the decimal system that are available, we only use 1 of the numbers, 911 which is translated just like the toll free 800 numbers to a substituted in pots number and then the call is completed. So why not make the substituted number 911-2345. This number does not have a problem being dialed at that phone company network level and it represents a change from total waste to moderate usage of, at the very least, 10,000 numbers. More importantly, it frees up what are the otherwise used public decimal numbers for public reassignment.

137. Then we have the 100 and 000 problem. This is still a good application for a multitude of services. In every case where the person does the dialing, any pause between the digits during dialing will render such application marginal, but this is simply not present when these numbers are computer dialed. All kinds of applications exist, including computer modem dialing to the Internet provider.

=====

=====

138. --- APPLICATIONS ---

=====

=====

139. BACKGROUND OF AUTHOR - While teaching electrical engineering for 23 years, I also owned a small alarm business and was the primary sales person for it. Calling on thousands of people for sales purposes, one develops a perception about what people say and do, and after a time, it is possible to "read" people.

140. During the last 15 years, I have written letter after letter and made call after call to all parties: FCC, CPUC, and all the many PHONE companies about the possibilities of using HEXADECIMAL NUMBERS as PHONE NUMBERS for "not-dialed-by-people" applications.

141. Now, with the existence of home computers, email, and web access, they all permit us to communicate easier and faster. I have sent email and completed numerous questioners about the issue of HEXADECIMAL NUMBERS, but I have never received a single reply! As I pointed out, I read

142. People reasonably well and I smell a rat! Ask your self: "What other explanation is there?"

143. My reasons for contacting the PHONE companies was partly because the PHONE companies kept telling the alarm INDUSTRY that new charges would be made for using the toll free 800 NUMBERS. This INDUSTRY uses millions of toll free NUMBERS for the transmission of security and fire alarm signals, as well as hold up and health emergency events. Alarm companies do not want people to be able to dial these NUMBERS because they terminate in their computers and admittedly it is a low risk overload possibility, but it could cause problems and prevent or slow the reception of alarm signals. We don't want the burglar to call the DECIMAL PHONE line NUMBER to try to defeat the emergency outgoing call to the monitoring station. So using a PRIVATE HEXADECIMAL NUMBER is actually a good idea, because it drastically cuts down on the ability to dial these NUMBERS from a Pacific Bell pay PHONE or any other phone! The alarm INDUSTRY would embrace the use of HEXADECIMAL NUMBERS over DECIMAL NUMBERS, any day!

144. There are dozens of other applications that may use HEXADECIMAL PHONE NUMBERS. They include, elevator phones, highway phones, pagers, faxes, all second and above NUMBERS in a multiline business or PHONE bank, computer access NUMBERS, point of sale, credit card verification, and so on.

145. TOUCH-TONE AND YOU - Some 20 years ago the FCC ordered every user of telephone service to pay a small monthly fee for the then new touch-tone push button PHONE system. This system is a 4x4-button system, not the 3x4 buttons you have on your PHONE today. The DECIMAL Phone Numbering system consists of

146. 1,2,3,4,5,6,7,8,9,0 but the HEXADECIMAL system goes on with 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F. All computers use this Numbering system and the PHONE system uses computers to provide PHONE service. We all paid for this HEXADECIMAL NUMBERING system, yet we got only the DECIMAL system. Do you smell a story about fraud? How many billions did we all pay for this system?

147. As our American PHONE system is presently configured, we have as an example, 619/231-1313, my PHONE NUMBER. The 619 is the area code. The 231 is the prefix. The 1313 is the line NUMBER. Using ONLY the line NUMBER and contrasting the DECIMAL and HEXADECIMAL possibilities we find that there are 10,000 NUMBER possibilities. But by using HEXADECIMAL NUMBERS, there are 65,536 NUMBER possibilities. That is 55,536 extra PHONE NUMBERS for FREE. No new area codes needed! A HEXADECIMAL PHONE NUMBER would look like 619/231-F3C1.

148. The PHONE system already works using HEXADECIMAL NUMBERS, so nothing is required to expand further into the HEXADECIMAL NUMBER system. We already use HEXADECIMAL A, B, and C as the buttons 0, *, and #.

149. Using the HEXADECIMAL NUMBER system will extend the life of the PHONE NUMBER system by some 100 plus years. The DECIMAL NUMBER system is currently projected to expire in less than 20 years.

150. HEXADECIMAL NUMBERING SYSTEM - A simple numbering system:

151. Hex (0 , 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F)

152. The 2 digit: 10, 11, 12, 13, 14, 15 NUMBERS have been replaced by the first letters of the alphabet, which are single letters. This keeps all 16 symbols single digit.

153. The proper utilization of NUMBERS in the existing system is essential and proper. But there are two flaws:

154. One is the steadfast refusal to assign the 0xx and 1xx prefixes and the continued failure to make use of the 911-xxxx exchange and the 611-xxxx exchange and so on. These are all assignable, provided a specific procedure is followed. Some of the assignment possibilities for 0 and 1 that will not cause problems with 0 for operator and 1 for toll call access are to use these as NUMBERS for Freeway Call Phones and "translated-to" NUMBERS as in 911. In other words, there must be a real effort to make assignments in 0xx and 1xx since they and 911/611/411 etc. represent 20+% of the NUMBER assignments available in an area code, and this is simply too high a figure to be ignored.

155. The other flaw in NUMBER assignment is the failure to realize that built in to this system, but deliberately prevented from being used, is the fact that more than the digits 1 to 9 and 0 exist. We have a base 16 number system not a base 10 number system. The actual range is 0 to 9 and A to F. This gives rise to NUMBER assignments that look like this: 2EC-8B9D, or 23A-4BB2. When the touch-tone system was invented, 16 buttons were provided, but only 12 are on the Public's Phones. The missing column is to the right.

156. HEXADECIMALS AS IN 6 EXTRA - The availability of the 6 digits provide for additional NUMBER assignments of 6/16th or

about 37.5%, but this figure will have some burden amounting to a minor reduction in the final analysis. Even so, the PUBLIC has the right to expect the full and complete utilization of this existing numeric resource within the established numeric format, and that fully complies with NANP.

156. AGED ATTITUDE - This is even more essential when it is realized that it is free. Nothing need be changed to use these NUMBERS, save the line cards at the Switch Room and the formal dislodging of the old, out dated attitude of Pacific Bell and all the other phone companies.

157. You can be sure, they will fight and outright refuse to proceed, claiming all sorts of costs, all of which are motivated by money. Keep in mind, when Pacific Bell comes up with a new area code, you just think no extra charges apply, but hidden in all this is the requirement that new yellow pages and new white pages will have to be produced. Now, who will pay for these extra ads? You got it, we will pay with increases in business costs. Clearly, this issue of the unnecessary proliferation of area codes in America and that they amount to a significant source of peripheral revenue for the PHONE companies will reverberate for some time to come.

158. PROOF EXTRAORDINARY - Some application of the HEXADECIMAL system is in full use and has been for more than 30 years. All alarm systems, fire, burglary, holdup etc. transmit over the national and local network in HEXADECIMAL and have HEXADECIMAL NUMBER identification assignments.

159. As a side comment, the costs of digital alarm equipment in the last 10 years have plummeted by figures of \$265.00 to \$79.95 with triple the features added.

160. How come the PHONE bill is going up when the other business services are going way down? How come the price of call

forwarding is \$3.50 yet it costs nothing to provide. Even the 7 lines of computer code that makes it work are the highest revenue producing computer code in the world by several hundred thousand percents.

160. How come the Voice Mail Computer costs less than \$3,000. in total, yet produces 5x that in income per each and every month. Now, to prevent competition, the CPUC has allowed them to charge extra for call forwarded messages, effectively preventing free competition in the voice mail field. Are you sure they are protecting us from them, or what? Those lobbyists sure know how to party.

161. The idea of assigning HEXADECIMAL NUMBERS for PUBLIC use is very reasonable and should be implemented immediately. Of the many applications, here are a few.

162. HEXADECIMAL NUMBER APPLICATIONS - Explore this list of use areas:

- 163. 800/888 Toll Free Translator Numbers
- 164. Alarms, Fire, Burglary, Holdup Systems
- 165. ATM Systems
- 166. Automatic Paging Systems
- 167. Bulletin Board Computer Systems
- 168. Call Box Signaling Systems
- 169. Computer Access Phone Numbers as for AOL etc.
- 170. Computer Access Second Line at Home
- 171. Corporate Systems
- 172. Credit Card Verification and Approvals
- 173. Elevator Phones
- 174. Emergency 911 System Phones
- 175. Freeway Emergency Phones
- 176. Internal Voice Mail
- 177. Military Communications
- 178. Pager Phone Services
- 179. Pay Phone Service
- 180. Phone Company Business Offices and Repair Service
- 181. Point of Sale Transactions
- 182. Public Voice Mail
- 183. Rotary Lines Second and Above (2-??) (UAL: 1 decimal, 999 HEXADECIMAL)

184. All of the above should be HEXADECIMAL NUMBER based.

185. NETWORK IS INTACT, NO CHANGES ARE NEEDED - As proof, alarm signals are transmitted daily, in Hex, and have been for many years. The collective total savings in NUMBERS (20% from 0xx and 1xx) and (37% from Hex) represents about a 50% block of not used or under used NUMBERS that fit the profile already established for the nation-wide network in EACH area code. 50 PERCENT, 50!!!! No business or government can in good faith waste 50% of what is now a NATIONAL RESOURCE.

186. PUBLIC EXAMINED UP CLOSE AND PERSONAL - Transparent to the general public, but no one should reply to this issue with the comment that it is too complicated or that the general PUBLIC will be confused, as nothing could be farther from the truth. There are three reasonable classifications of the PUBLIC: General, Enlightened, and Technical. The general PUBLIC will never know this system is in use, except that no more new DECIMAL area codes will become known to them, and for that, they will be very pleased!

187. GENERALLY SPEAKING - the PUBLIC will never dial a hex PHONE NUMBER, except for PUBLIC HEXADECIMAL NUMBERS for paging or faxing or voice mail access etc. in which case, users are in fact, no longer the GENERAL PUBLIC, but are ENLIGHTENED PUBLIC with some abilities beyond their general PUBLIC counter parts.

188. ENLIGHTENED PUBLIC - These same people will encounter PHONE menus directing them to press 1 and #3 and * to start over in a PHONE menu, so directing them in the first place to dial a PHONE NUMBER like 23#-1234 or 458-*123 is simply not a problem. And this enlightened PUBLIC classification includes personal computer users, who only program their America On Line dialer window, as an example, to dial a PHONE NUMBER that has been provided by AOL as the NUMBER to be inserted in the space provided. It is folly to think that these same persons will somehow develop fright over changing a PHONE NUMBER from 234-5678 to 23F-1DCB using their

computer keyboard for the one-time entry of the NUMBER that will last for the next several years of service. These NUMBERS are saved and dialed by the program, forever, until changed by human intervention or by aliens blasting us with rays not yet know to humanity.

188. TECHNICALLY EXPERIENCED PUBLIC - These are technically experienced persons, such as alarm technicians, PHONE installers, point of sale installers, etc. that are already trained in HEXADECIMAL NUMBERS from their education in set theory and technical computer jargon, so they will have no problem using the full range of HEXADECIMAL charters and the resulting codes required for any application we may conceive. Programming of these systems fall within the PRIVATE HEXADECIMAL NUMBER category and is accomplished by the technical PUBLIC. Telephone installer test sets include all HEXADECIMAL digits and are available off the shelf, today, for merely \$10 extra.

189. PUBLICLY SPEAKING FROM MY SOAP BOX - Dan Quayle, a man with a special affinity for the ~~xe~~ on the end of his name, can say things I can't or won't so it is fair that I say things he will not. The best description for the functioning of the FCC is outrageous. It is outrageous that the PHONE bills go up when all other computer based services go way down. For example, the alarm control panels did cost \$350 to \$500, now they cost \$80 and have dozens more and better features. Call waiting costs nothing to implement and can be programmed in less time than it takes to drink a beer, yet CPUC allows the PHONE company to rape the PUBLIC with the outrageous charge of \$3.50 per month. And it goes on and on, clearly those responsible for protecting the PUBLIC interest deserve a grade of F and this fact is finally, at long last, becoming the subject of legislation in California.

190. CALIFORNIA ENACTED POOR QUALITY LAW - Without any professional communications engineer's advice, the California Senate committee proceeded to enact Assembly bill AB818 Area

Codes. This process was broadcast over the Internet so that all of us could hear the lack of meaningful discussion, and complete kowtow to the phone companies! Now you know what the second highest expenditure lobbyist group gets for their money.

190. There was not one person with any knowledge of this HEXADECIMAL proposal. Although, this issue was sent to every member of the committees and to the author of the bill and to the Chairwoman. Now you know why we have so very many dumb laws. Just ask the public!

191. On the other hand, some Senators demanded that California simply ignore the FCC altogether. The point being, if you are in charge of this, then do your job or we will do it for you. And, finally the point was made, `JUST DO THE RIGHT THING.❖ So here it is, the right thing, it is to immediately introduce HEXADECIMAL numbers to both the California and National system. The NANP is intact, and these additional numbers are fully compliant. JUST DO THE RIGHT THING!

192. OBSOLETE EQUIPMENT - Nothing in this proposal creates or causes any equipment to become obsolete. It is true that some new features will require new equipment, but this is exactly one of the reasons for our urgency claim for proceeding with haste.

193. The telephone on your desk or at home and the pay Phones and PCS, analogue and digital cellular Phones (some cell Phones display true HEXADECIMAL today, check the display when you push the 0 and the # and the *), all Phones will still have the 3x4 dial you are familiar with today. It will still allow you to dial all DECIMAL PHONE NUMBERS and it will still allow you to use the control features embodied in *70, etc., and voice mail controls as in # and or * and all the DECIMAL digits that you routinely use today.

194. In addition, this same PHONE pad will allow you to dial